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NPIC/R-103/64

February 1964

PHOTOGRAPHIC INTERPRETATION REPORT

POSSIBLE ANTIMISSILE MISSILE ASSOCIATED FACILITIES MOSCOW AREA, USSR



CIA



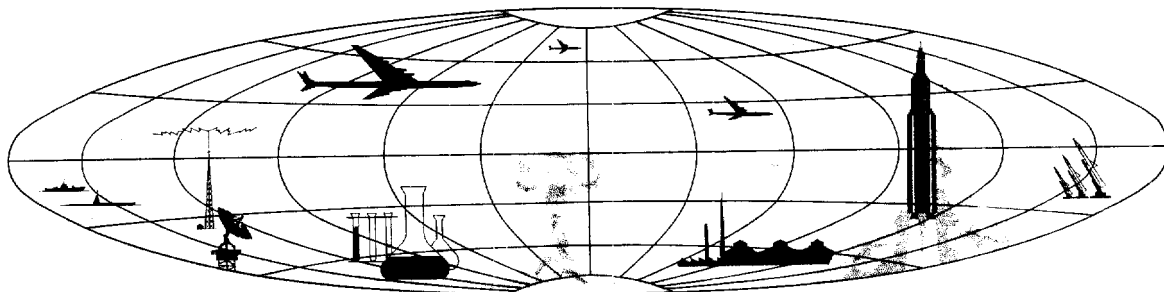
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POSSIBLE ANTIMISSILE MISSILE
ASSOCIATED FACILITIES
MOSCOW AREA, USSR

NPIC/R-103/64

February 1964

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~~TOP SECRET CHESS RUFF~~

PREFACE

This report has been prepared under NPIC project JN-212/62 as a partial answer to numerous requirements for information on Soviet anti-missile (AMM) defenses in the Moscow area. Additional reports based on KEYHOLE photography have been prepared on all Moscow SA-1 SAM sites. For each site a photograph is provided, significant changes since the first KEYHOLE coverage are noted, and all KEYHOLE photographic coverage through [REDACTED] is listed. The reports, by quadrant, are as follows: northeast, NPIC/R-64/64; southeast, NPIC/R-90/64; southwest, NPIC/R-71/64; and northwest, NPIC/R-81/64.

25X1D

TOP SECRET CHESS RUFF

INTRODUCTION

This report furnishes information available on KEYHOLE photography through [REDACTED] that may be related to AMM activity in the Moscow area. It supplements and updates a previous report 1/ and provides information on some facilities not covered by it, although it does not cover the SAM assembly and support facilities near Moscow. A search of the Moscow area through [REDACTED] re-

vealed no recognizable AMM launch positions.

Four sites at which activities parallel the construction development of certain facilities at the Sary-Shagan Antimissile Test Center (SSATC) are covered in the first part. Construction chronology is summarized in Table 1. The second part is concerned with unidentified activity that is suspect but cannot be directly related to AMM defense.

POSSIBLE AMM-ASSOCIATED FACILITIES

KEYHOLE photography of [REDACTED] revealed a facility at a fourth Moscow SAM site, E05-1, similar to possible AMM-associated facilities at the SSATC. The three previously identified facilities 1/ are at Moscow SAM Sites E15-1, E24-1, and E33-1. Each of the Moscow facilities has a triad of buildings composed of a rectangular building, 225 by 125 feet, and two smaller buildings, 100 by 100 feet. The triad is always at the opposite end of the herringbone from the guidance area, and the two smaller buildings are on the side facing Moscow. There is also an associated unidentified ground pattern approximately 750 to 900 feet from the large rectangular building toward the centerline of the launch area.

Although these facilities were first identified in the [REDACTED] a review of earlier photography indicates that related construction had occurred more than a year earlier. In support areas at all four sites, at least three 195-by 40-foot buildings approximately 30 feet high had been constructed prior to [REDACTED]. Photography of that date also showed construction of access roads to serve the triad areas at Sites E05-1, E15-1, and E33-1. Preliminary site preparation was evident in the triad areas

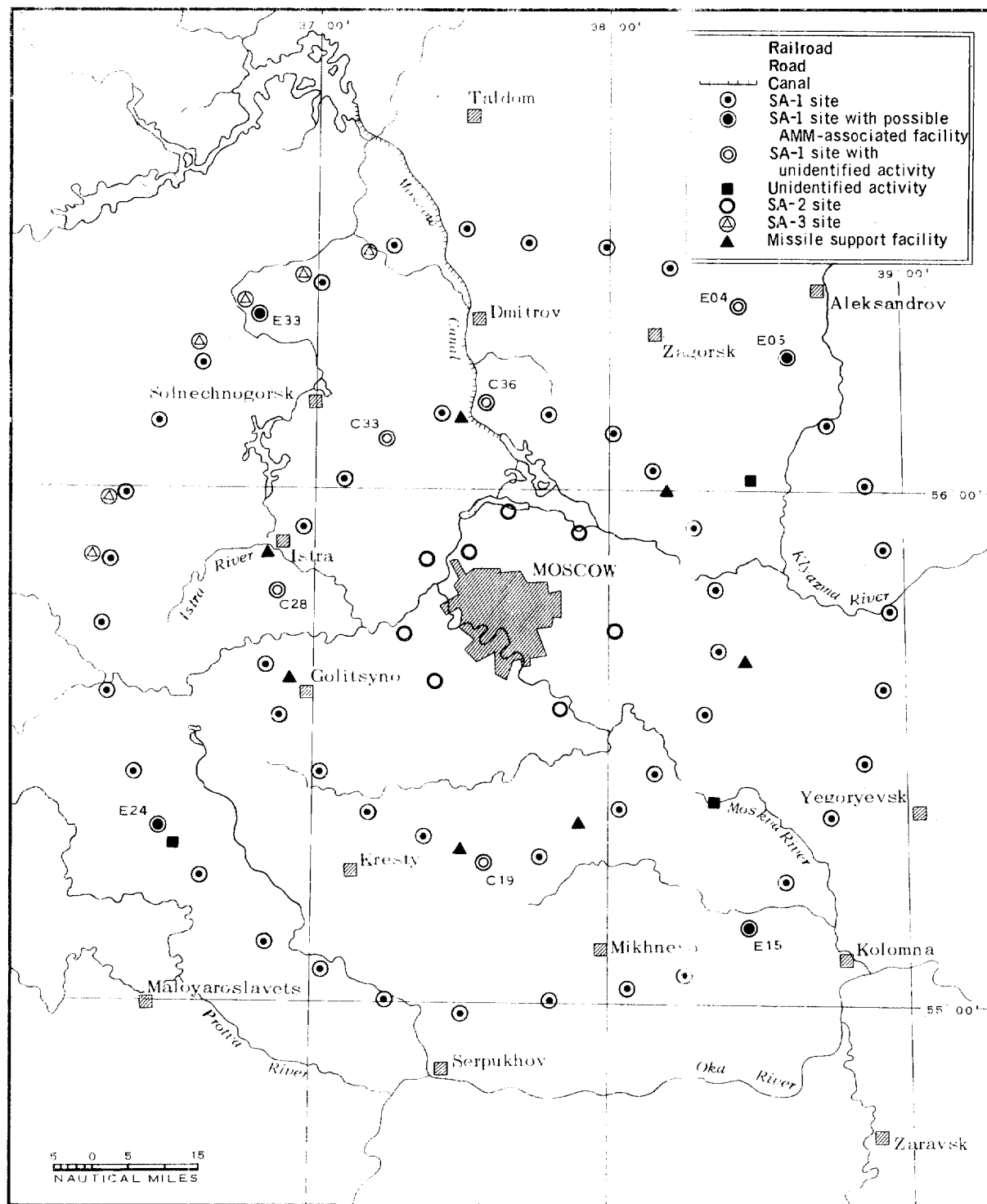
of three sites in [REDACTED]. The triad at the fourth site, E05-1, was apparent in [REDACTED] on the first clear photographic coverage since [REDACTED]

Facilities at sites E05-1 and E24-1 are diagonally opposed at a distance of approximately 91.5 nautical miles (nm); sites E15-1 and E33-1 are diagonally opposed at 91.8 nm. At all sites except E05-1, the exteriors of the buildings appeared complete in [REDACTED] and included unidentified circular objects positioned on the roofs. A line connecting the objects on the roofs of the three buildings would not form an equilateral triangle as at similar facilities at the SSATC. Orientation of the facility is considered as based on a perpendicular bisector of an imaginary line between the objects on centers of the roofs of the two 100-by 100-foot buildings.

MOSCOW SAM SITE E05-1

This site is approximately 44 nm northeast of Moscow at 56-14-34N 38-35-05E (Figure 1). The possible AMM-associated facility was first identified on photography of [REDACTED] but the poor image quality of the photography permitted identification only. A review of earlier photography showed that related construction had occurred as early as [REDACTED]

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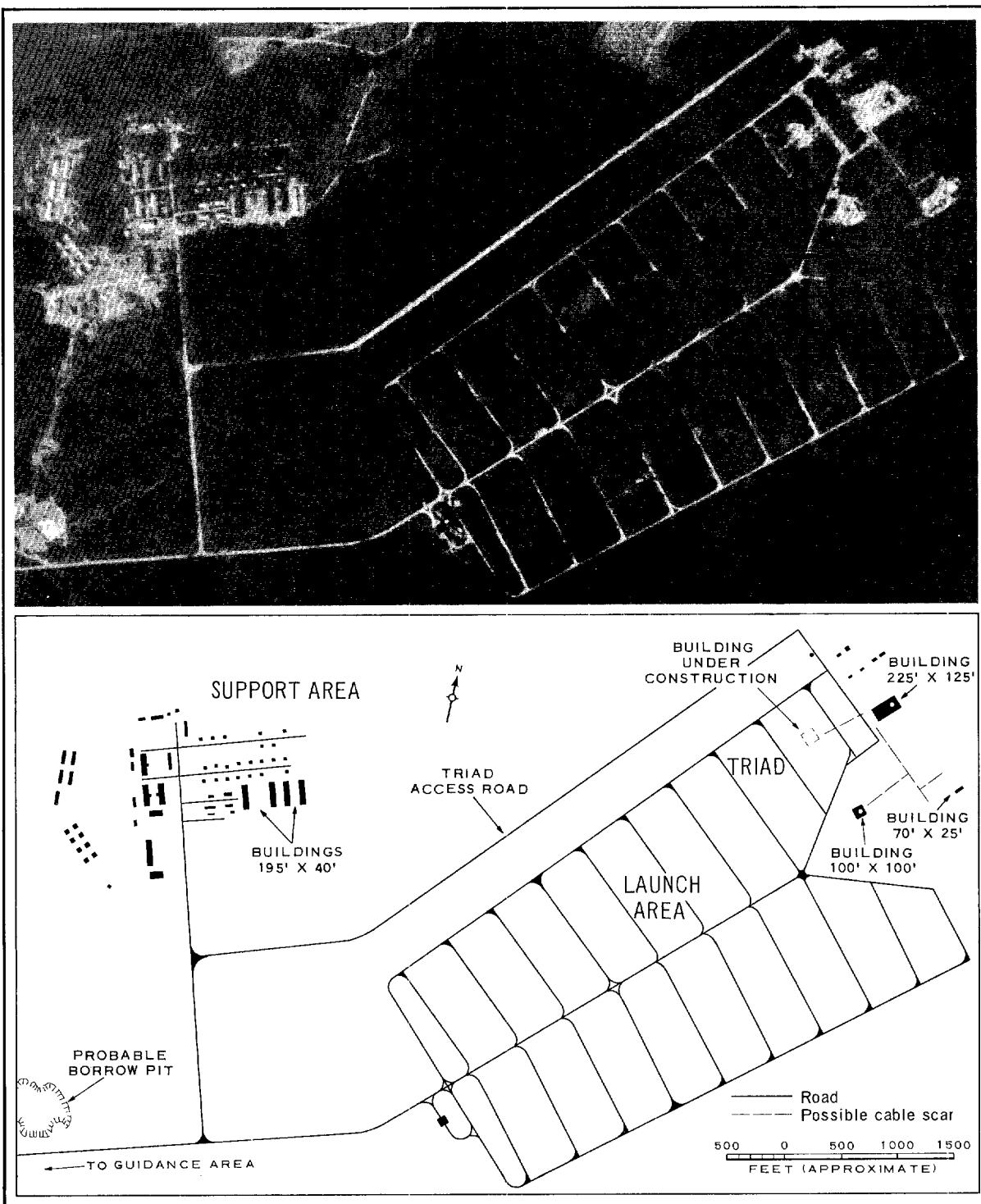


FIGURE 2. POSSIBLE AMM-ASSOCIATED FACILITY, SAM SITE E05-1

NPIC H-7224 (2/64)

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25X1D Support Area. In [REDACTED] the southeast corner of the support area had two buildings that were 195 by 40 feet and approximately 30 feet high. These buildings are not observed on photography of [REDACTED], although snow cover limits detailed analysis. By [REDACTED] a third building of similar size had been completed, and an access road paralleling the launch area had been constructed to the triad area. This was the last clear coverage of the site until [REDACTED] (Figure 2), by which time a number of changes were apparent. A fourth building 195 by 40 feet had been built in the support area. All four buildings are at right angles to the service road. A gap large enough to accommodate another building has been there since [REDACTED]

25X1D Possible AMM-Associated Facility. In the northeast corner of the SA-1 launch area, the possible AMM-associated facility included the following, on coverage of [REDACTED]

25X1D A rectangular building 225 by 125 feet and approximately 30 feet high had an unidentified circular object positioned on the center rear of the roof. There also were two or three other small objects, possibly construction material or equipment. The building was served by a rib road that had been added to the herringbone, and a possible cable scar extends southeast from the rectangular building toward the centerline of the launch area to a cleared area where unidentified ground patterns have been seen at other facilities. A short section of cable scar also branches toward the southwest 100- by 100-foot building.

25X1D One 100- by 100-foot building appeared complete and had an unidentified circular object on the center of its roof. A second building, probably of similar dimensions, was under construction. An imaginary line connecting the unidentified objects on the roofs and the center of the building under construction would

form a triangle with sides approximately 800, 840, and 1,000 feet long. The facility is oriented on an azimuth of [REDACTED]

In a clearing approximately 890 feet southeast of the large rectangular building there is a 70- by 25-foot structure which may be in the early stages of construction similar to that at sites E24-1 and E33-1.

Other Construction. At the end of the launch area and on the northern side of the large rectangular building, there are three cleared and connected areas of unidentified activity. One clearing has four small structures, one has two, and the third has a small circular object positioned in the center.

A probable borrow pit along the site service road west of the launch area appeared larger than in [REDACTED]

MOSCOW SAM SITE E15-1

This site is approximately 44 nm southeast of Moscow at 55-09-50N 38-22-15E (Figure 1). The site appeared complete on KEYHOLE photography of [REDACTED] but new construction was apparent on photography of [REDACTED]

Support Area. Four new buildings, canted and in line, were observed on the southeast side of the support area on photography of [REDACTED]. All were 195 by 40 feet and approximately 30 feet high. About a year later, on photography of [REDACTED], two more buildings of the same dimensions had been added to the area.

Access Road. In [REDACTED] an access road parallel to the eastern side of the launch area was under construction to the triad area.

Possible AMM-Associated Facility. In [REDACTED] preliminary site preparation had taken place at the southeast corner of the launch area but no buildings had been erected. By [REDACTED], the site preparation had assumed the triangular pattern but no buildings had been erected. Approximately 830 feet west of the

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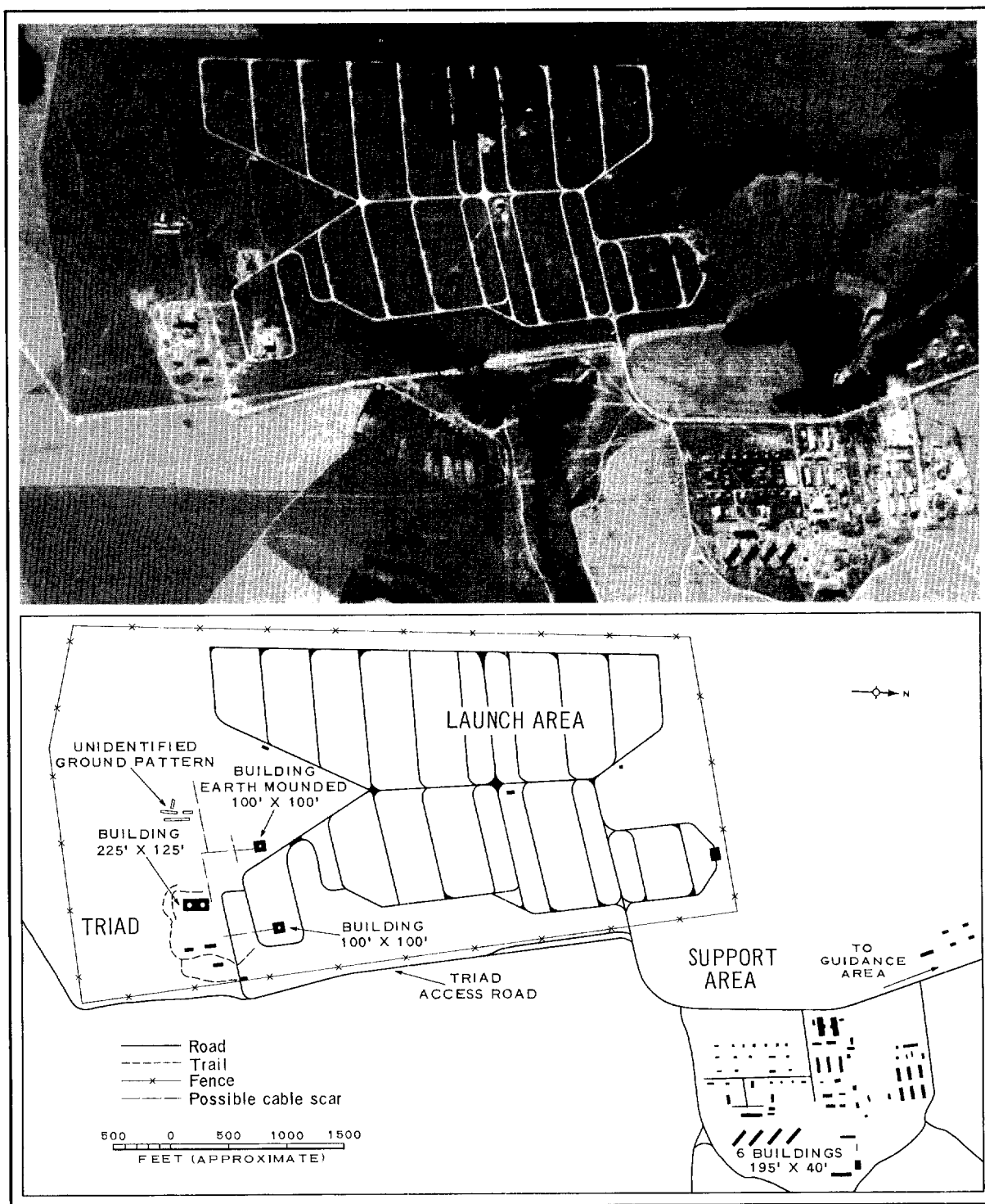


FIGURE 3. POSSIBLE AMM-ASSOCIATED FACILITY, SAM SITE E15-1

NPIC H-7225 (2/64)

NPIC/R-103/64

ultimate site of the large rectangular building, an unidentified ground pattern was observed for the first time.

On photography of [REDACTED] the exteriors of two 100- by 100-foot buildings, each with an unidentified circular object on the center of its roof, appeared complete. The eastern one was adjacent to one of the original launch area bunkers. At the same time, the walls were under construction for the 225- by 125-foot rectangular building. It is interesting to note that the exterior of the two smaller buildings had probably been completed and the construction of the rectangular building had been begun during a [REDACTED] period.

By [REDACTED] (Figure 3), the exterior of the large rectangular building appeared complete and was approximately 30 feet high. It had an unidentified circular object at the north end of the roof and another at the south. A ridge extending across the width of the building separated the roof into light and dark tones, the half nearer to the launch area being lighter, and the object located on this portion of the roof appearing slightly lower than the other unidentified object. The western 100- by 100-foot building appeared to have been earth mounded with the object on its roof barely exposed. An imaginary line connecting the southern object on the roof of the rectangular building with the objects on the other buildings would form a triangle with legs 840, 875, and 940 feet long. The facility is oriented on an azimuth of [REDACTED]

Other Construction. To the south of the launch area and on the opposite side of the large rectangular building from the centerline of launch area, four buildings have been constructed. Three of these were under construction on [REDACTED], and the fourth was identified on [REDACTED]. One building is 95 by 30 feet, one 85 by 30 feet, one 110 by 35 feet, and one 55 by 25 feet.

In [REDACTED] a dark plus configuration scar was noted for the first time near the south V of the launch area, possibly ditching for cable connections. Similar scarring was also observed leading from the rectangular building to one of the 100- by 100-foot buildings.

MOSCOW SAM SITE E24-1

This site is approximately 45 nm southwest of Moscow at 55-21-04N 36-29-27E and was identified as a completed SA-1 SAM site on KEYHOLE photography of [REDACTED]

Support Area. At that time the southeast corner of the support area had three, or possibly four, buildings that were 195 by 40 feet and about 30 feet high. By [REDACTED] there were five of these buildings.

Possible ANM-Associated Facility. On [REDACTED] there was preliminary site preparation in the southeast corner of the launch area. By [REDACTED] two buildings 100 by 100 feet appeared complete and each had an unidentified circular object at the center of its roof. The large rectangular building, 225 by 125 feet, was under construction. About 750 feet north-northwest of it, a T-shaped unidentified ground pattern, 250 by 130 feet, was observed for the first time.

[REDACTED] later, on photography of [REDACTED] the large rectangular building appeared complete and had an unidentified circular object at the center rear of its roof. The roofline appeared to be stepped, but on photography of [REDACTED] it seemed to be level (Figure 4).

A line connecting the roof objects of the three buildings would form a triangle with legs measuring 795, 835, and 915 feet. The site is oriented on an azimuth of [REDACTED]

Other Construction. A cleared area in a notch on the north side of the herringbone launch area had been expanded between the end of [REDACTED]

MOSCOW SAM SITE E33-1

This site is approximately 45 nm northwest of Moscow at 56-20-00N 36-48-27E. On the first clear KEYHOLE coverage, [REDACTED] the site appeared complete and a nearby SA-3 SAM site [REDACTED] of the F-configuration,

was also complete. There had been no change in the SA-3 site through photography of [REDACTED]

Support Area. In [REDACTED] the eastern side of the support area included four buildings, each 195 by 40 feet and approximately 30 feet high. An additional building of the same size

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25X1D

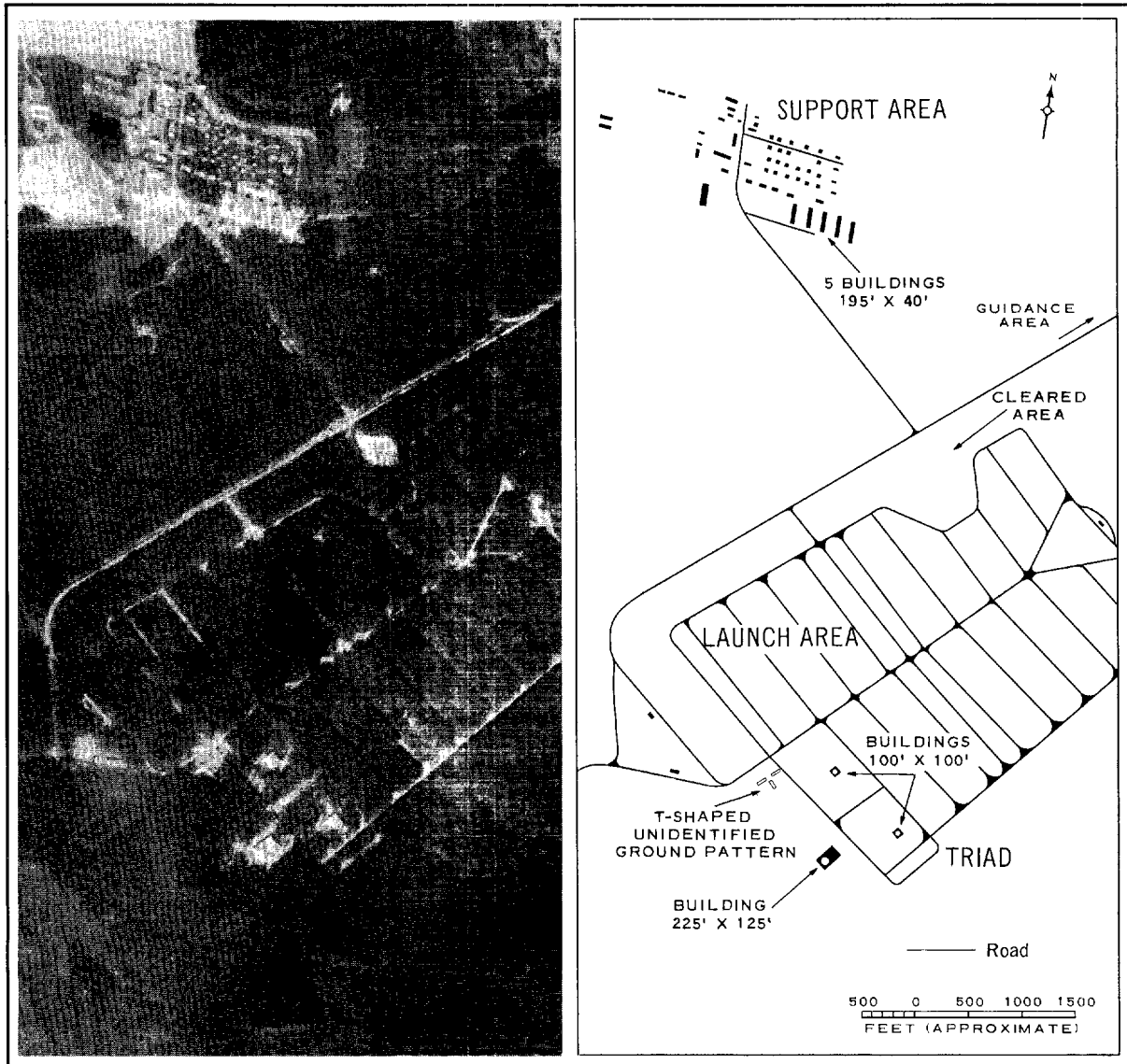


FIGURE 4. POSSIBLE AMM-ASSOCIATED FACILITY, SAM SITE E24-1 [REDACTED]

NPIC H-7226 (2/64)

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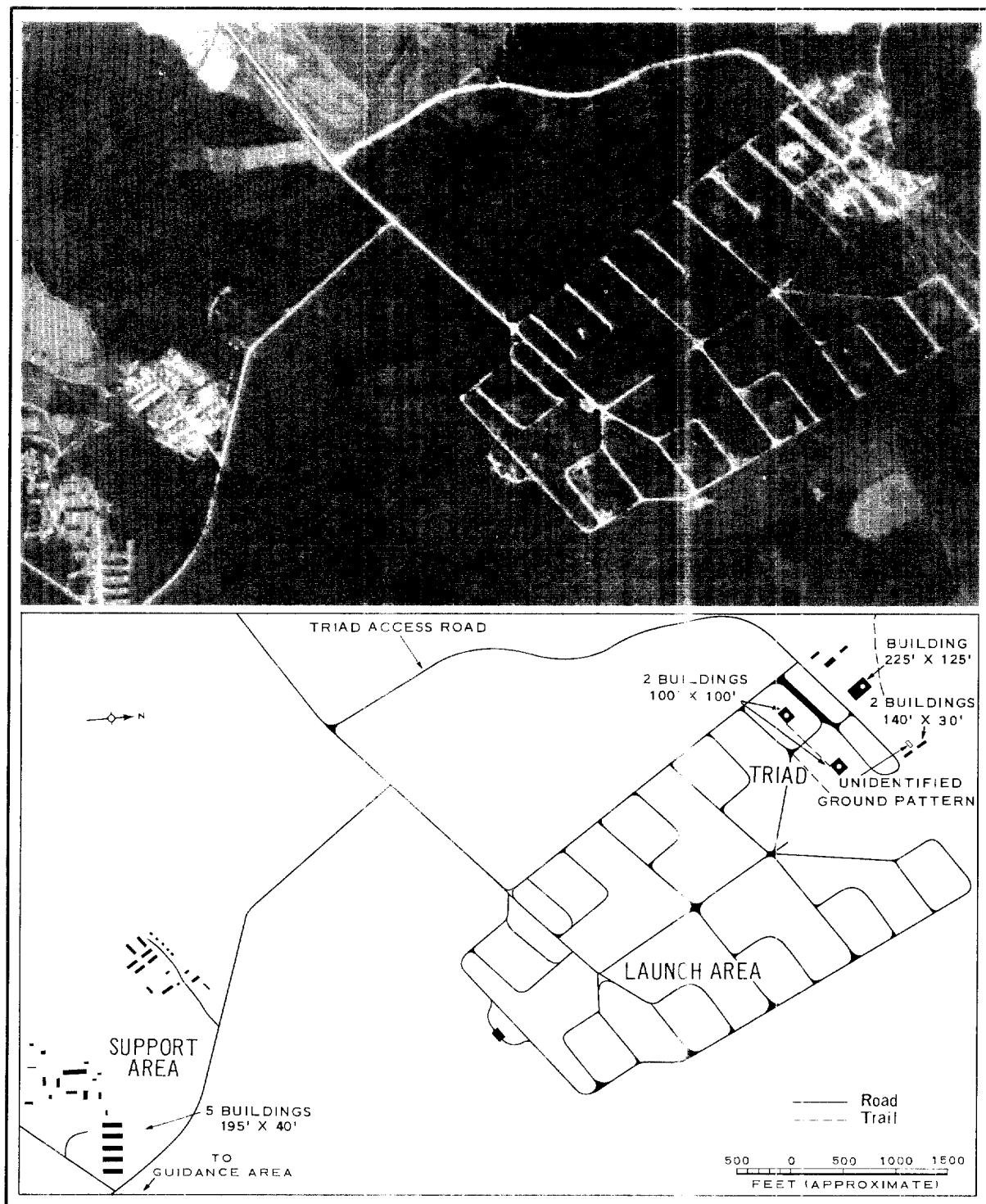


FIGURE 5. POSSIBLE AMM-ASSOCIATED FACILITY, SAM SITE E33-1, [REDACTED]

NPIC H-7227 (2/64)

25X1D

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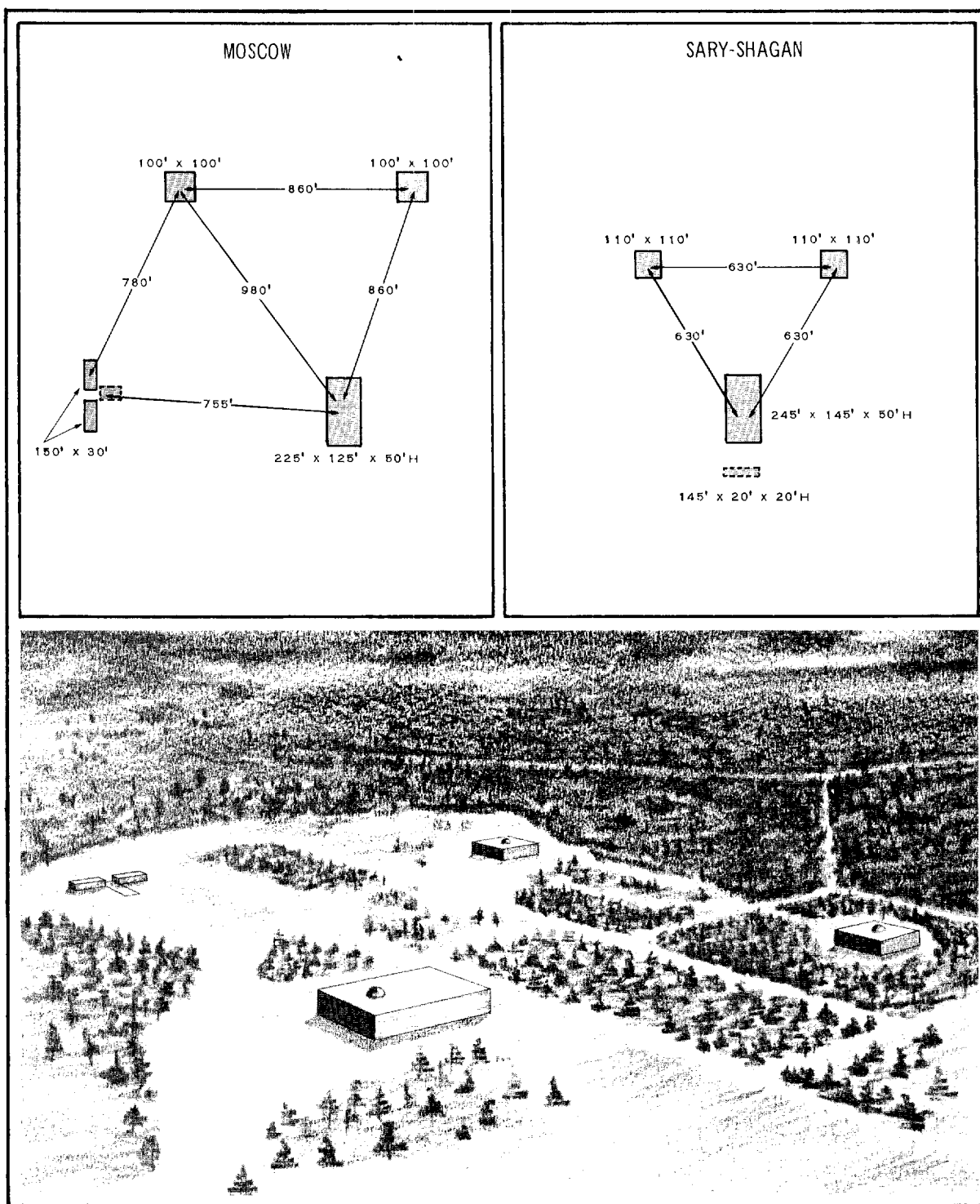


FIGURE 6. MOSCOW SAM SITE E33-1 COMPARED TO AVERAGE OF SSATC FACILITIES.

NPIC H-7228 (2/64)

NPIC/R-103/64

25X1D was added between [REDACTED] the time of the next clear coverage of the support area.

25X1D Access Road. On photography of [REDACTED] a new road was under construction from the site service road to the northwest side of the launch area. It was complete on photography of [REDACTED]

25X1D Possible AMM-Associated Facility. There had been no activity at the northwest side of the launch area by [REDACTED] Not until photography of [REDACTED] was the site preparation for the triad apparent. By [REDACTED] a rectangular building, 225 by 125 feet and approximately 30 feet high, had been completed and included an unidentified circular object on the rear of its roof. Two smaller buildings, 100 by 100 feet, appeared complete and each had an unidentified circular object on its roof. A line connecting the objects on the roofs would form a triangle with legs of 860, 860, and 980 feet. The

site is oriented on an azimuth of [REDACTED]

On photography of [REDACTED] a T-shaped ground pattern 775 feet east of the rectangular building was first observed. The pattern was 30 feet wide with a bar of 280 feet and a stem of 15 feet. On photography of [REDACTED] two buildings were apparent on the bar of the T, each approximately 150 by 30 feet (Figures 5 and 6).

Other Construction. To the north of the launch area and on the opposite side of the large rectangular building from the T-shaped ground pattern, three additional buildings were first noted on photography of [REDACTED]. The buildings are 100 by 70 feet, 75 by 50, and 75 by 40 feet. The triad access road passes south of these and the large rectangular building, continues to the T-shaped pattern, then loops back to join one of the rib roads of the herringbone launch area.

Table 1. Construction Chronology at Possible AMM-Associated Facilities

Date and Mission	Site E05-1	Site E15-1	Site E16-1	Site E33-1
[REDACTED]	2 bldgs 195' x 40' in support area, poss 3d u/c 3d bldg complete; triad access road complete	Not covered 4 bldgs 195' x 40' in support area; triad access road u/c	3 bldgs 195' x 40' in support area No activity at triad	4 bldgs 195' x 40' in support area Triad access road u/c
[REDACTED]	Not covered	Site preparation for triad	Not covered	Identification only
[REDACTED]	Cloud covered	Site preparation continued	2 bldgs 195' x 40' added support area; site preparation for triad continued	Site preparation for triad
[REDACTED]	Cloud covered	1 bldg 195' x 40' added support area; triad pattern clear; u/c centerline ground pattern visible	2 bldgs 100' x 100' complete; walls of 225' x 125' bldg u/c T-shaped ground pattern visible	Cloud covered
[REDACTED]	Cloud covered	2 bldgs 100' x 100' complete; walls of 225' x 125' bldg u/c	225' x 125' bldg complete	1 bldg 225' x 125' & 2 bldgs 100' x 100' complete; T-shaped ground pattern visible

25X1D

NPIC/R-103/64

25X1D

Table 1. (Continued)

Date and Mission	Site E05-1	Site E15-1	Site E24-1	Site E33-1
	Triad activity identified	Not covered	No apparent change	Not covered
	225' x 125' bldg complete; 1 bldg 100' x 100' complete, one u/c; 70' x 25' bldg at centerline u/i ground pattern; u/i activity in clearings north of 225' x 125' bldg	225' x 125' bldg complete; one 100' x 100' bldg earth mounded	No apparent change	2 bldgs 140' x 30' on bar of T-shaped ground pattern

SUSPECT ACTIVITY

This part of the report briefly describes unidentified activity in the Moscow area that is suspect but cannot be directly related to activity at the possible AMM-associated facilities.

SA-1 SITES WITH RECENT UNIDENTIFIED EARTH SCARRING

Two SA-1 sites have had some unidentified activity since [REDACTED]

SAM Site E04-1 [REDACTED] is at 56-20N 38-23E. Two generally circular areas of earth scarring were observed in the launch area on photography of [REDACTED] (Figure 7). These scars had not been present on the last previous cloud-free photography, [REDACTED]

25X1A

25X1D

25X1D

25X1D

25X1D

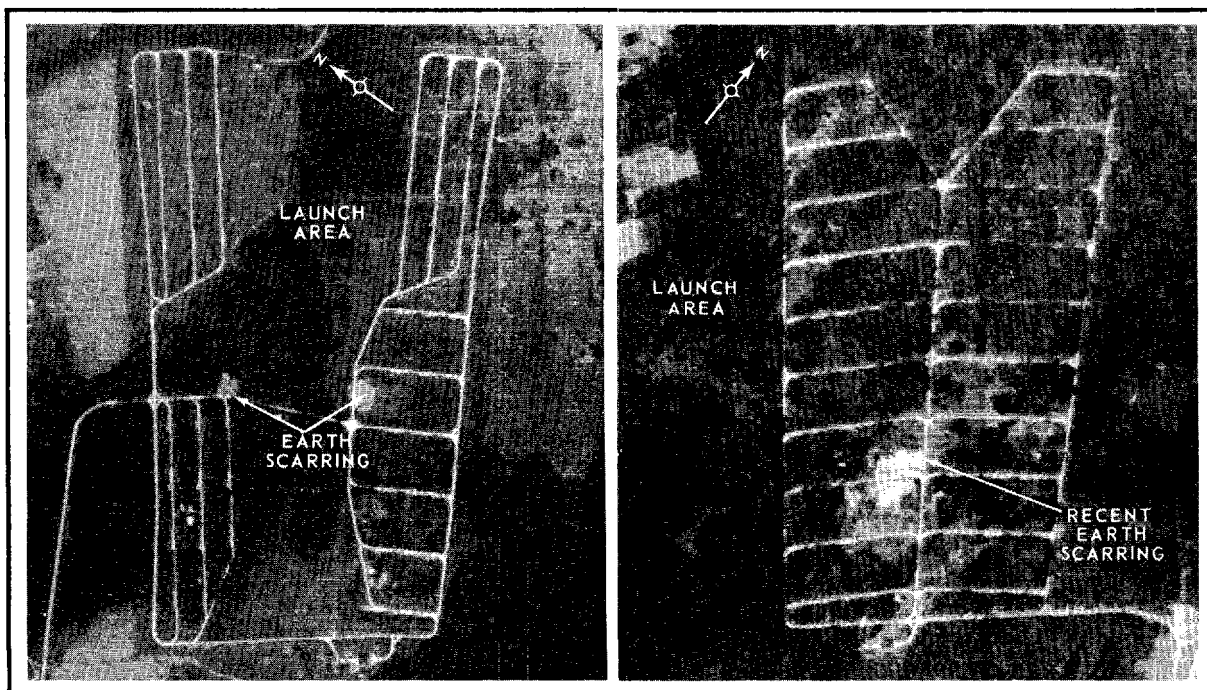


FIGURE 7. SA-1 SITES WITH UNIDENTIFIED EARTH SCARRING, [REDACTED]

NPIC H-7229 (2/64)

25X1D

NPIC/R-103/64

25X1A SAM Site C33-1 [REDACTED] is at
25X1D 56-07N 37-11E. Earth grading on both sides
25X1D of one of the rib roads in the launch area was
apparent on photography of [REDACTED]
(Figure 7). This scarring, which was about
500 feet wide, was not underway on [REDACTED]

SA-1 SITES WITH MISSILE CHECKOUT/STORAGE BUILDINGS

Missile checkout/storage buildings at three
SA-1 sites have been reviewed to determine if
changes or additions have occurred since the
first KEYHOLE coverage of Moscow [REDACTED]

25X1D SAM Site C19-1 [REDACTED] is at
25X1A 55-17N 37-34E. A secured storage area be-
tween the launch and guidance areas contains
nine drive-through missile checkout/storage
buildings, each 310 by 100 feet (Figure 8). No
changes in this site were observed between [REDACTED]

25X1D SAM Site C28-1 [REDACTED] is at
25X1A [REDACTED]

55-49N 36-52E. The site has nine drive-
through missile checkout/storage buildings 310
by 100 feet, and five parallel support buildings
in a secured area between the launch and support
areas (Figure 8). A rail spur which connects
this installation with the Istra SAM assembly
and storage facility [REDACTED] was
under construction in [REDACTED] and had been
completed by [REDACTED] C28-1 was the only
SA-1 site connected by rail to any of the Moscow
SAM assembly and storage facilities in [REDACTED]

SAM Site C36-1 [REDACTED] is at
56-12N 37-36E. There are nine drive-through
missile checkout/storage buildings, each ap-
proximately 310 by 100 feet, in a secured area
southwest of the herringbone launch area. These
buildings were present on the first clear
KEYHOLE coverage [REDACTED] and there had
been no apparent change through the end of
[REDACTED]

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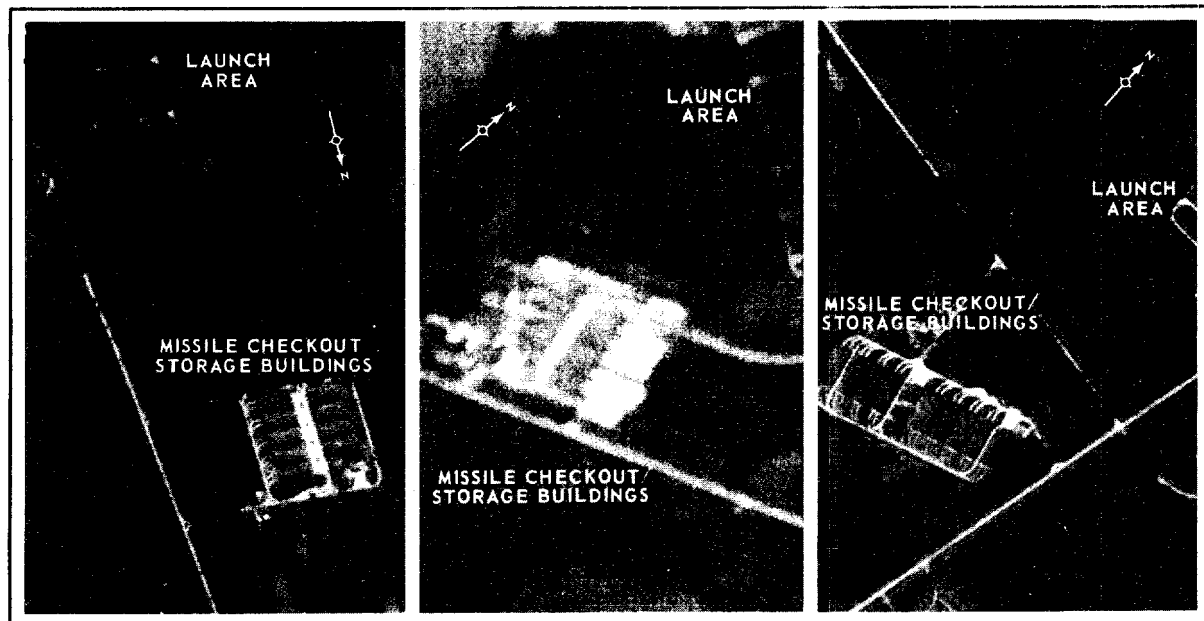


FIGURE 8. MISSILE CHECKOUT/STORAGE BUILDINGS AT SA-1 SITES [REDACTED]

NPIC H-7230 (2/64)

25X1D

OTHER ACTIVITY

Activity was apparent southwest of Moscow at 55-21N 36-38E on KEYHOLE photography of [REDACTED]. A rail line was present at that time, and by [REDACTED] the rail line and a building could be discerned on photography of poor image quality. On good photography of [REDACTED] it was apparent that the building was flat roofed, approximately 600 by 260 feet, and serviced by roads with wide-radius turns. Some of the roads, as well as the rail line, appeared to be under construction. Between [REDACTED] the road network had increased considerably (Figure 9).

Three unidentified plus configurations have been observed east of Moscow (Figure 10). Construction of two at 56-03N 38-30E began in the period between [REDACTED]. One plus is approximately 1,100 by 980 feet, the other approximately 840 by 780 feet. Each had an unidentified object at its center. On photography of [REDACTED] a plus was seen under construction at 55-24N 38-20E. It is apparently complete and is about 1,000 by 1,000 feet. There is a small support area between it and a primary road.

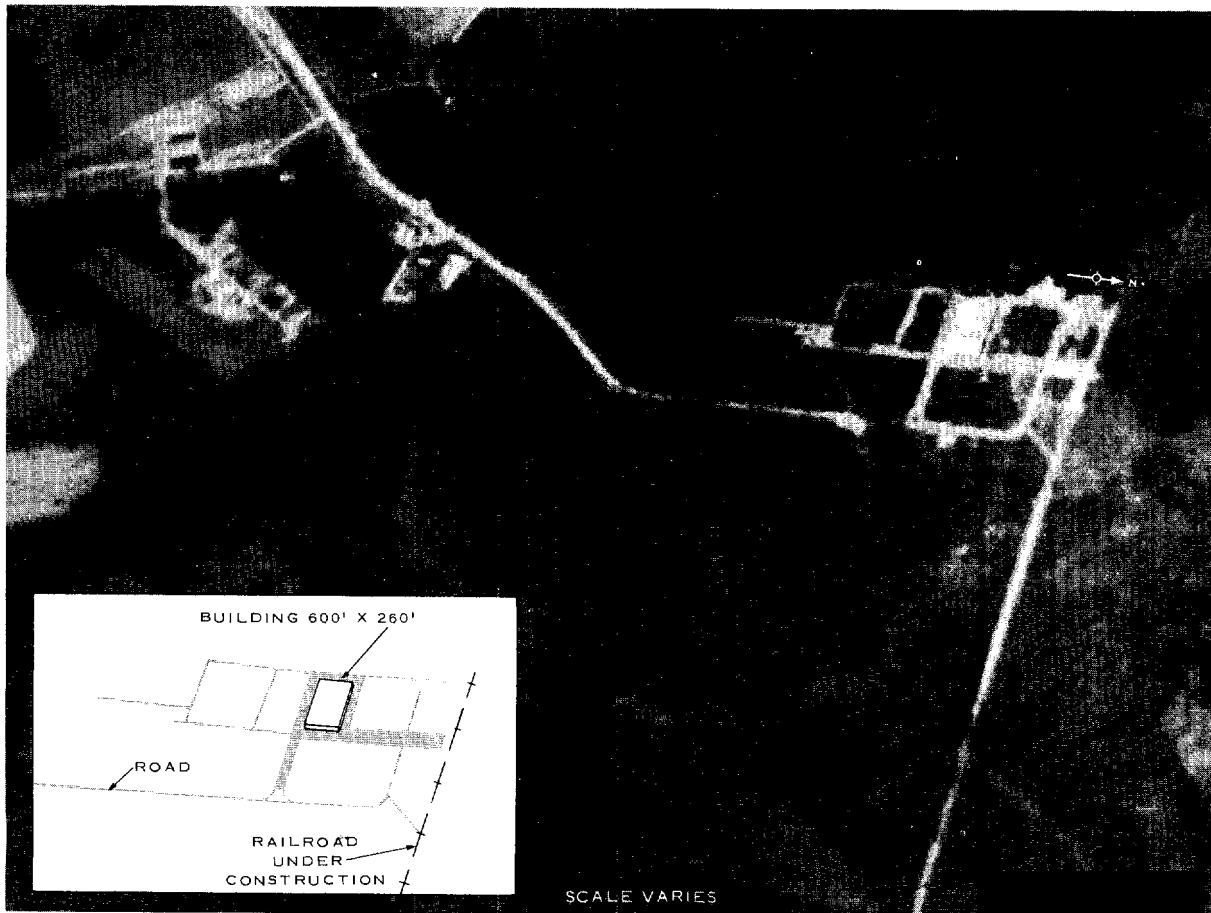
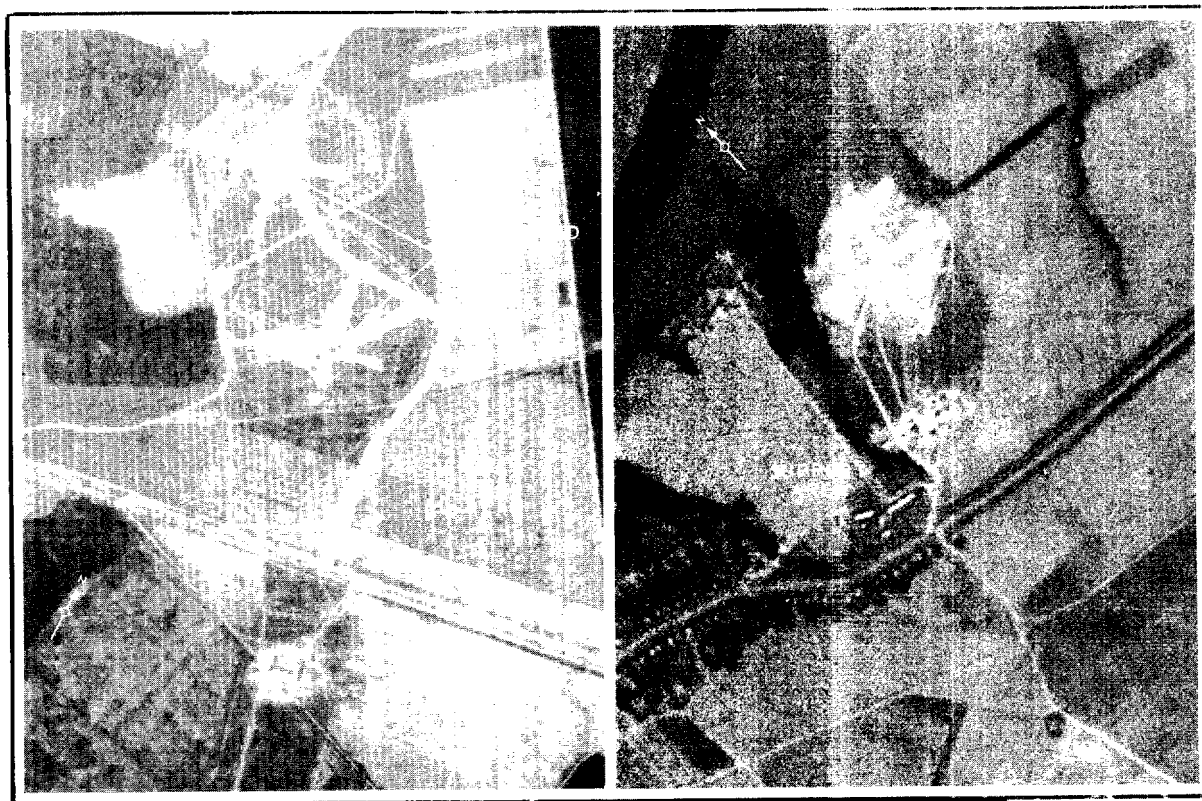


FIGURE 9. UNIDENTIFIED INSTALLATION [REDACTED]

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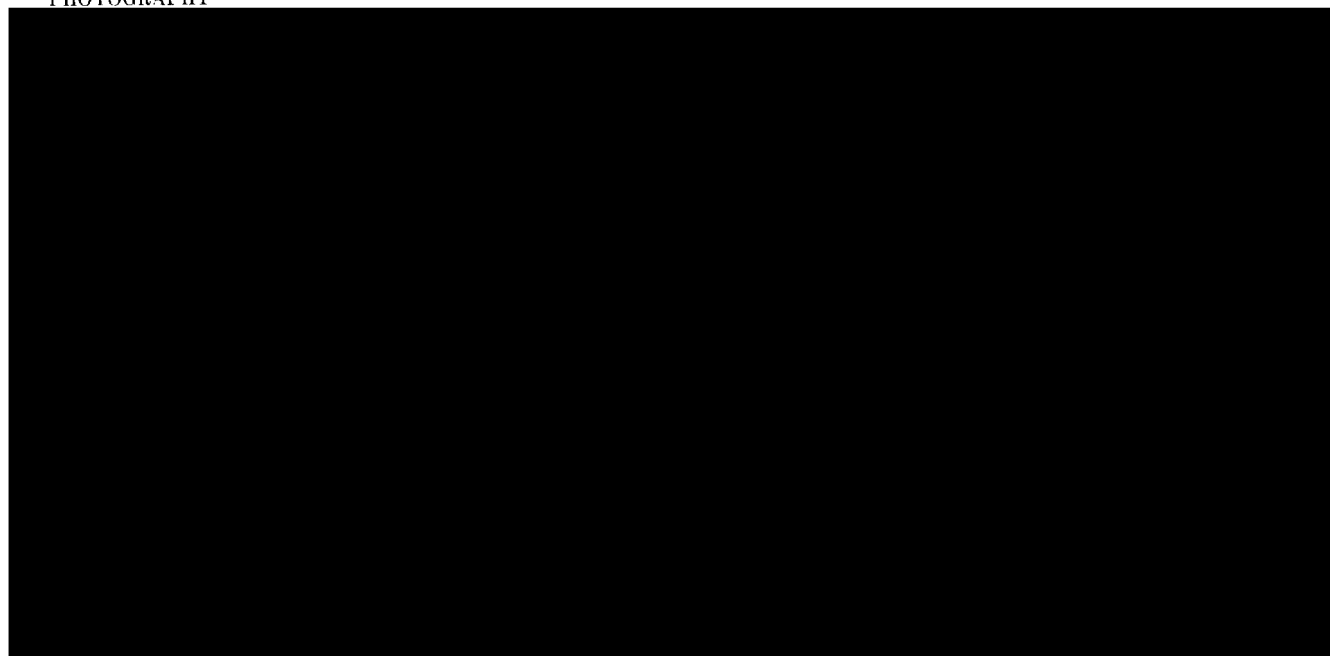
NPIC 11-7232 (2/64)

FIGURE 10. UNIDENTIFIED PLUS CONFIGURATIONS, [REDACTED]

REFERENCES

25X1D

PHOTOGRAPHY



25X1D

REFERENCES (Continued)

MAPS OR CHARTS

DIA. US Air Target Chart, Series 200, Sheet 0154-22HL, 2d ed, Mar 63, scale 1:200,000 (SECRET)
DIA. US Air Target Chart, Series 200, Sheet 0154-23HL, 2d ed, Apr 63, scale 1:200,000 (SECRET)
DIA. US Air Target Chart, Series 200, Sheet 0167-4HL, 2d ed, Mar 63, scale 1:200,000 (SECRET)
DIA. US Air Target Chart, Series 200, Sheet 0167-5HL, 2d ed, Apr 63, scale 1:200,000 (SECRET)
DIA. US Air Target Chart, Series 200, Sheet 0167-10HL, 2d ed, Feb 63, scale 1:200,000 (SECRET)

DOCUMENT

1. CIA. NPIC/R-147/63, Possible Antimissile Missile Associated Facilities Moscow Area, USSR, Jul 63 (TOP SECRET CHESS RUFF)

REQUIREMENTS

DIA. DIAXX 27-62
CIA. C-RR3-80,334
CIA. C-RR3-80,354
CIA. C-RR3-80,320
CIA. C-SI3-80,407

NPIC Project

JN-212/62 (partial answer)

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